Case study title: **Montserrat Integrated Vulnerability Analysis**

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Case study emphasis: Vulnerability reduction

Summary:

Since the Soufriere Hills volcano began erupting in 1995, Montserrat has undergone substantial physical, economic, social and institutional changes. The destruction and evacuation of the capital city, Plymouth, in 1997 prompted the migration of more than 5,000 people and necessitated the relocation of the remaining population to the northern one-third of the island.

In an attempt to recover from this disaster, the Government of Montserrat (GoM) has been working ardently towards the redevelopment of the northern section (Safe Zone) of the island. In order to ensure the long-term sustainability of the society and economy, the GoM is giving high priority to disaster mitigation in the design and development of the physical and social infrastructure within the Safe Zone.

In 2002, the GoM contracted Smith Warner International (SWI) for the *Provision of Consultancy Services for an Integrated Vulnerability Analysis of Montserrat*.

The overall goals of this project are to provide a disaster prevention and mitigation framework within which the GoM may develop hazard risk and vulnerability strategies. The main objectives of *The Integrated Vulnerability Analysis of Montserrat* are:

- To present the history of natural and technological hazards in Montserrat.
- To determine the vulnerability of the Safe Zone, and in particular, the proposed development areas to natural hazards.
- To determine the areas in the Safe Zone that are prone to multiple hazards.
- To consider the physical and social infrastructure that are required to meet the island's needs as they exist at this time, as well as those ensuing from the planned development.

- To make disaster mitigation recommendations for development planning and disaster management.

This was done by carrying out the following tasks:

1. Preliminary data gathering and reconnaissance field visit
2. Baseline study and evaluation of development plans
3. Hazard Mapping including
   Wind;
   Storm surge;
   Inland flooding;
   Tsunami;
   Seismic;
   Volcanic; and
   Landslide hazards.
4. Socio-economic Analysis
5. Develop Mitigation Guidelines.

Date that model application was completed: Project Ongoing

Case study geographical location: Caribbean

Vulnerability assessment indicators: Potential for damage from volcanic eruption, storm surge, river flooding, landslides, hurricane winds, tsunami.

Methodology data requirements:
Detailed topographic maps, detailed bathymetric charts, historical storm data, wind data, rainfall data, hydrological data, seismic data, geomorphological data, volcanic data, data on man-made hazards (oil spill, traffic, etc.)

Direct participants in the application of the model of the vulnerability assessment:
National Government
Multilateral Development Agency

Economic and social sector participants directly involved: Government of Montserrat

Methodology objective: To define areas of the Safe Zone that will be the least susceptible to volcanic and other natural hazards.

Methodology output: Primarily hazard maps

Results of methodology application at case study site: Specification of mitigation practices to reduce risk and vulnerability including ranking of proposed development sites.

Lessons learned: Integrated assessment planning should be an essential tool in reducing the vulnerability of communities in the Caribbean.